

THE CLAIMS

What is claimed is:

- 5 1. A golf ball comprising a core and a cover layer, wherein at least one of the core or cover layer comprises a hybrid material, wherein the hybrid material comprises a fatty acid-modified glass ionomer.
- 10 2. The golf ball of claim 1, wherein the fatty acid is selected from a group consisting of butyric acid, caproic acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, margaric acid, stearic acid, arachidic acid, behenic acid, lignoceric acid, palmitoleic acid, petroselinic acid, oleic acid, elaidic acid, cis-vaccenic acid, trans-vaccenic acid, gadoleic acid, gondoic acid, erucic acid, nervonic acid, linoleic acid, γ -linolenic acid, α -linolenic acid, stearidonic acid, dihomogamma-linolenic acid, arachidonic acid, timnodonic acid, clupandonic acid,
15 dimers, trimers and mixtures thereof.
3. The golf ball of claim 1, wherein the fatty acid-modified glass ionomer is made at least in part by neutralizing the glass ionomer with an inorganic metal cation and post-blended with a fatty acid or a fatty acid salt.
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4. The golf ball of claim 3, wherein the glass ionomer is neutralized from about 80% to about 100%.
- 25 5. The golf ball of claim 3, wherein the inorganic metal cation comprises barium, lithium, sodium, zinc, bismuth, chromium, cobalt, copper, potassium, strontium, titanium, tungsten, magnesium, cesium, iron, nickel, silver, aluminum, tin, calcium, manganese and mixtures thereof.
- 30 6. The golf ball of claim 3, wherein the fatty acid salt comprises barium, lithium, sodium, zinc, bismuth, chromium, cobalt, copper, potassium, strontium, titanium, tungsten, magnesium, cesium, iron, nickel, silver, aluminum, tin, calcium, manganese and mixtures thereof.

7. The golf ball of claim 1, wherein the fatty acid-modified glass ionomer is made at least in part by neutralizing the glass ionomer with a fatty acid salt.
- 5 8. The golf ball of claim 7, wherein the glass ionomer is neutralized from about 80% to about 100%.
9. The golf ball of claim 7, wherein the fatty acid salt comprises barium, lithium, sodium, zinc, bismuth, chromium, cobalt, copper, potassium, strontium, titanium, tungsten, magnesium, cesium, iron, nickel, silver, aluminum, tin, calcium, manganese and mixtures thereof.
- 10 10. The golf ball of claim 2, wherein the core comprises a center and an outer core layer.
11. The golf ball of claim 10, wherein at least one of the center or the core layer comprises the hybrid material.
- 15 12. The golf ball of claim 2, wherein the cover comprises an inner cover layer and an outer cover layer.
13. The golf ball of claim 12, wherein at least one of the inner or outer cover layers comprises the hybrid material.
- 20 14. The golf ball of claim 13, wherein at least one of the inner or outer cover layer has a thickness of less than about 0.05 inches.
- 25 15. The golf ball of claim 2, wherein the core has an outer diameter of at least about 1.55 inches.
16. The golf ball of claim 15, wherein the core has an outer diameter of between about 1.57 inches and about 1.62 inches.
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17. The golf ball of claim 2, further comprising thick or thin films, fillers, fibers, flakes, particulates, windings, adhesives, coupling agents, compatibilizers, composites, short or long fibrous reinforcements, and inks formed of the hybrid material.

5 18. The golf ball of claim 1, wherein the hybrid materials are present in fillers.

19. The golf ball of claim 15, wherein the fillers comprise fibers, flakes, particulates, short or long fibrous reinforcement.